

Work Order ID 61423

Page 1

Wednesday, August 25, 2010 8:55:06 AM

Item ID: D205-634-041

Accept



Setup Start



Revision ID:

Item Name: Replacement Skidtube

Stop



Start Date: 8/25/2010 Start Qty: 1.00



Cust Item ID:

Required Date: 9/3/2010 Req'd Qty: 1.00



Customer:

Reference:

Approvals: Process Plan:



Date: 10-8-28 Tooling:

Date:

Run Start



QC:

Date: SPC (Y/N):

Date:

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberReject
NumberInsp.
Stamp

Draw Nbr	Revision Nbr
D2580	Rev D

100

0.00



DOCUMENT CONTROL

DC

0.00

Document Control

Memo

Photocopy D205-634 bluefile & type labels per PPP D205-634-041 CHG002

110.



BENDING MACHINE - SKIDTUBES

0.00

CNC Bend 1

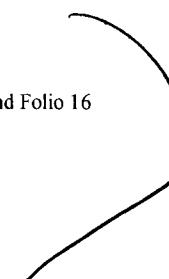
Memo

1-Bend as per program D2580.C on CNC Bender and Folio 16

CNC Delta 100 Bender

2-Cut tubes as per Dwg. D2580

3-scribe batch# in aft end of tube



10-9-2

W/O:		WORK ORDER CHANGES					
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QtyReject
NumberInsp.
Stamp

120



Skidtubes

Memo

0.00

Skidtubes

1- Deburr ends

2- C'sink holes as per dwg without cutting fluid

3- Prepare tube for welding, remove alodine as required.

130



QC5- Inspect part completeness to step on W/O

0.00

QC

Memo

0.00

Quality Control

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Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop

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Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

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Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

140



Skidtubes

Memo

0.00

✓

Skidtubes

1-Weld step D2576 as per Dwg. D2580 and QSI 004
A/R□□□ Aluminum Rod

m114877 BE 10/09/07

2-Prep per QSI 005 and weld crossbolt spacers D2579 as per Dwg. D2580, QSI 004.

For D2579 spacers, weld one side, pass 3/8" drill, weld other side, pass 3/8" drill
A/R□□□ Aluminum Rod

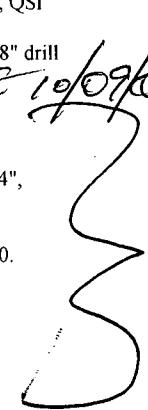
m114877 BE 10/09/07

3-Grind welds as per Dwg D2580 Grind flush ridge made from bending

4-Drill holes for wearplates using DT 8217 & DT8937 Open holes to 19/64",
adjust stopper not to hit web. Deburr5-Counterbore crossbolt spacers to 7/16" ID x 1.0" deep as per Dwg D2580.
Deburr holes

6-Drill pilot holes for aft cap using DT 8215 Open holes to 0.208". Deburr

7-Drill pilot holes for Tow ring using DT8091, open to .640" and Deburr



BE 10/09/09

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Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop

Sequence ID/
Work Center ID

150



QC

Quality Control

Operation
Description

QC10- Inspect visual per QSI004- ground welds

Set Up/
Run Hours

0.00

S108109

Tool ID

Tool #

Plan

Code

Accept
QtyReject
QtyReject
NumberInsp.
Stamp

160



QC

Quality Control

QC5- Inspect part completeness to step on W/O

0.00

S108109

0.00

(X)

170



HandFinish

Hand Finishing

Pressure Wash per QSI005 4.3

0.00

BR 10-9-13

0.00

Memo

Re-alodine tube as per QSI 005 section 4.1.2.1 do not acid etch and leave fwd cap out of solution.

(1)

W/O:		WORK ORDER CHANGES					
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Page 5

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Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop

Sequence ID/
Work Center ID

180



Powdercoat

Powder Coating

Operation
Description

White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum

m114841

Memo

START TIME:

OVEN TEMPERATURE:

FINISH TIME:

Set Up/
Run Hours

0.00

0.00

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

BL 10-9-13.

190



QC

Quality Control

QC3- Inspect Part Finish

0.00

0.00

Memo

= 10 10914

1

1

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Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop

Sequence ID/
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DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberReject
NumberInsp.
Stamp

200



HandFinish

Hand Finishing

Memo

0.00

27/08/10 10/09/10

0.00

1-Install inserts & wearplates & Gaskets as per Dwg. D2580. Use a drop of
Sikaflex on insert holes before installing wearplatesA/R Sikaflex-291 M115104
Sikaflex expire date: 11/102-Coat D2594-3 O' rings with Petroleum Jelly and install on D2594-1 plugs as
per Dwg D2580

3-Inspect for foreign object per QSI 024

4-Install 2855 Aft Cap as per Dwg D2580 and seal Fwd Step & Aft Cap with

Sikaflex. Clean excess adhesive
A/R Sikaflex-291 M115114
Sikaflex expire date: 11/105-Wing Walk as per Dwg D2580 and QSI 005 4.4
Batch: M11502B

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Page 7

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Process Plan:

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Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

210



QC

QC5- Inspect part completeness to step on W/O

0.00

S 10/09/14

(70)

Quality Control

Memo

0.00

Inspect Aft Cap, Fwd Step and Wing Walk of work to Current Step Inspect for
Foreign objects per QSI 024

220



Packaging

0.00

R 10/09/14

Packaging

Memo

0.00

Identify and pack for shipping as per PPPD205-634-041
Location: PPP Rev: 61320

230



QC

QC21- Final Inspection - Work Order Release

0.00

Quality Control

Memo

0.00

10/09/14

MF
10-9-16

W/O:		WORK ORDER CHANGES					
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Start Date: 8/25/2010

Required Date: 9/3/2010

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP Rev:N 02.08.28 FP was QC5 in Step 27; Added QC5 to Step 30 KJ

IPP Rev P 10.02.19 per PAR09-043 EC verified by:DD

IPP Rev. O 06.02.28 Added paperwork EC

IPP Rev:P 07-07-09 SS Wearplates & Gaskets JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

D2580-1



Manufactured

No

110

Each

5.0000

1



SAD

10-09-0

205 Skidtube bent detail

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
LG	4	B60953
57028	1	
60956	1	
61191	2	
ST046	1	
59856	1	

D2576-3



Manufactured

No

140

Each

81.0000

1



Step (machining detail)

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
LG	81	
46661	33	
52215	48	

SE 10/09/07

W/O:		WORK ORDER CHANGES					
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Start Date: 8/25/2010

Required Date: 9/3/2010

Start Qty: 1.00

Required Qty: 1.00

D2579



Manufactured No

140

Each

404.0000

20

20



Crossbolt Spacer

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
LG	404	
57052	5	
57348	4	
58433	2	
59113	122	
60845	102	
61199	169	

20 BE 10/09/07

D2855



Manufactured No

200

Each

77.0000



1
M 10/09/14

Cap

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
FP6	1	
56613	1	
ST026	76	
50513	1	
50770	28	
51539	2	
53791	45	

X1
M 10/09/14

AN3-5A



Purchased No

200

Each

1,534.000



2
M 10/09/14

Bolt

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
ST350	1534	
105057	534	
115016	500	
115371	500	

X2
M 10/09/14

W/O:		WORK ORDER CHANGES					
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Page 3

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Start Date: 8/25/2010

Required Date: 9/3/2010

Start Qty: 1.00

Required Qty: 1.00

AN960JD10L



NAS1149D0332J Purchased

No

200

Each

2,501.000

2

2



M 10/09/14

Washer

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
-----------------	----------------	-----------------

ST348	2501	
	2501	

(110985)

ALS7-1032-130



Purchased

No

200

Each

878.0000

50



XZ

Insert

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
-----------------	----------------	-----------------

FP	861	1114723
115079	861	
ST282	17	
113238	17	

AN3C4A



Purchased

No

200

Each

1,831.000

50



X50

BOLT

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
-----------------	----------------	-----------------

ST303	500	
	500	
ST350	1331	
114108	14	
114416	12	
114523	2	
114941	303	
115300	1000	

(115438)

X50

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Start Qty: 1.00

Required Qty: 1.00

AN960C10L

NAS1149C0332
R

Purchased

No

200

Each

179.0000

50

50

1115000



x50 M10914

washer

Location	Loc Qty	Loc Code
ST245	179	
107534	29	
109545	78	
111548	72	

D3566-13

Manufactured

No

200

Each

26.0000

1



M10914

Gasket

Location	Loc Qty	Loc Code
FP012	26	
59661	18	
60209	8	

D3566-5

Manufactured

No

200

Each

30.0000

1



M10914

Gasket

Location	Loc Qty	Loc Code
FP	22	
60869	22	
FP015	8	
59158	8	

W/O:		WORK ORDER CHANGES					
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Start Qty: 1.00

Required Qty: 1.00

D3566-1



Manufactured No

200

Each

29.0000

2

2



HL 10109114

Gasket

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
FP	5	361656
60857	5	
FP015	24	
57715	2	
60202	12	
61215	10	

X2

D3564-11



Manufactured No

200

Each

17.0000

1

1



HL 10109114

Wearshoe

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
FP019	17	
59941	4	
60302	13	

X1

D3564-13



Manufactured No

200

Each

23.0000

1

1



HL 10105114

Wearshoe

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
FP17	23	359660
59660	11	
60862	12	

X1

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Page 6

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Start Qty: 1.00

Required Qty: 1.00

D3564-9



Manufactured No

200

Each

20.0000

1

1



Wearshoe

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
FP	1	
55334	1	
FP019	19	
59201	6	
60236	13	

D3564-5



Manufactured No

200

Each

21.0000

1

1



Wearshoe

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
FG	1	
34806	1	
FP19	2	
57525	1	
58709	1	
FP-19	18	
59157	6	
60868	12	

D2594-3



Manufactured No

200

Each

267.0000

16

16



O-Ring, 205 Skidtube

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
FP	267	
55546	19	
58191	12	
59358	236	

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Required Qty: 1.00

D2594-1



Manufactured No

200

Each

355.0000

16

16



8/25/09 11:4

Plug, 205 Skidtube

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
FP	183	
42807	112	
55002	71	
FP14	172	
58434	15	
(59110)	157	F16

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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

DART

DESIGN <i>#</i>	DRAWN BY <i>PH</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>#</i>	APPROVED <i>#</i>	DRAWING NO. D2580	REV. D SHEET 1 OF 3
DATE 07.02.27		TITLE 205 SKIDTUBE ASSEMBLY	SCALE NTS
A	96.09.16	NEW ISSUE	
B	96.12.02	AS MANUFACTURED	
C	98.08.26	REDRAWN, INCLUDED DEO 9094/9097	
D	07.02.27	CHANGE TO SS WEARPLATES AND GASKETS, INCLUDE DEO 9124/9183	

RELEASED
07.06.28 #

QTY -041	QTY -045	Part Number	Description
X		D2580-041	SKIDTUBE ASSEMBLY
	X	D2580-045	SKIDTUBE ASSEMBLY
1	1	D2500-1-190	EXTRUSION
1	1	D2576-3	STEP
20	24	D2579	CROSS BOLT SPACER
16	16	D2594-1	PLUG
16	16	D2594-3	O-RING
1	1	D2596	205 WEB
1	1	D2855	AFT CAP
1	1	D3564-5	WEARSHOE
1	1	D3564-9	WEARSHOE
1	1	D3564-11	WEARSHOE
1	1	D3564-13	WEARSHOE
2	2	D3566-1	GASKET
1	1	D3566-5	GASKET
1	1	D3566-13	GASKET
50	50	ALS7-1032-130 or AKS7-1032-130 or AKS4-1032-130 or AELS-1032-130	INSERT
50	50	AN3C4A	BOLT
2	2	AN3-5A	BOLT
50	50	AN960C10L	WASHER
2	2	AN960JD10L	WASHER

GENERAL NOTES:

- 1) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 2) ALL DIMENSIONS ARE IN INCHES
- 3) INSERT D2596 WEB TO LOCATION SHOWN OFF AFT END OF SKIDTUBE AND BOND WEB INTO OUTER TUBE WITH NON-STRUCTURAL SIKAFLEX-241 ADHESIVE PER DART QSI 015 BEFORE BENDING. ENSURE HOLES LINE-UP.
- 4) BEND AS A SMOOTH RADIUS STARTING WITH A MAXIMUM CENTERLINE RADIUS OF 60 AND ENDING WITH A MINIMUM RADIUS OF 30. A MAXIMUM REDUCTION OF 0.200 IN DIAMETER IS ALLOWABLE IN THE BENT PORTION OF THE TUBE.
- 5) USE DART DRILL TEMPLATE TD2577-205 TO LOCATE AND DRILL Ø0.297 HOLES FOR WEARSHOE INSERTS. INSTALL ALS7-1032-130 PER SECTION D-D (50 PLACES) AFTER FINISH. INSTALL AN3C4A BOLTS AND AN960C10L WASHERS WITH SIKAFLEX-241-291.
- 6) WELDING TO BE DONE PER DART QSI 004.
- 7) FINISH:
SEE NOTES ON
PAGE 2 FOR D2580-041 AND
PAGE 3 FOR D2580-045
- 8) INSERT D2594-1 PLUG C/W D2594-3 O-RING IN HOLES MARKED 'P' (BOTH SIDES OF TUBE) AFTER FINISH (16 PLACES).

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

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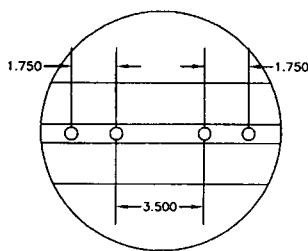
Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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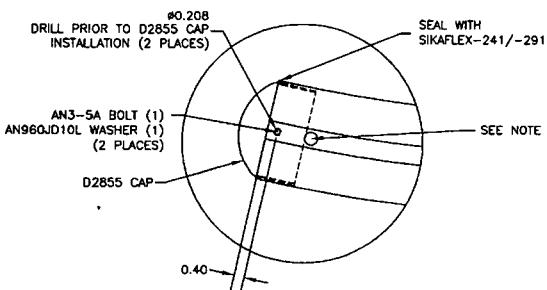
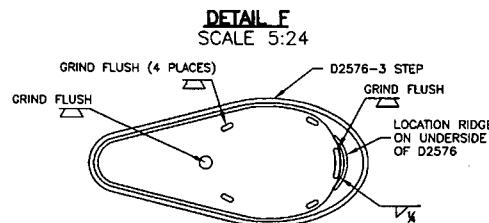
NOTE: Date & initial all entries

DETAIL E
SCALE 5:24

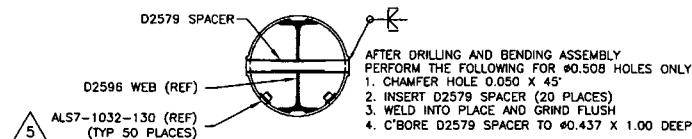


RELEASED
(07-06-28)

DETAIL F
SCALE 5:24



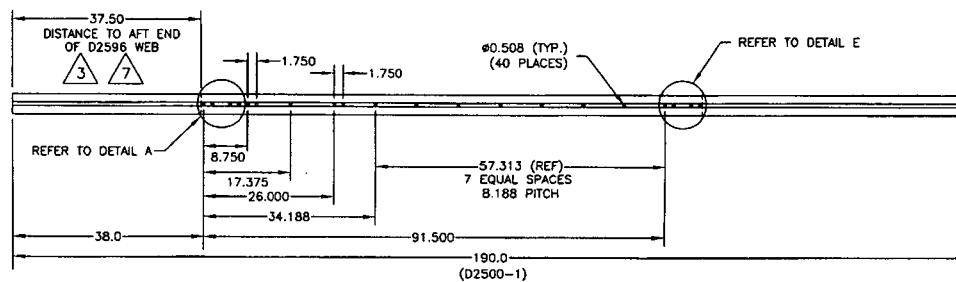
SECTION H-H
SCALE 5:24



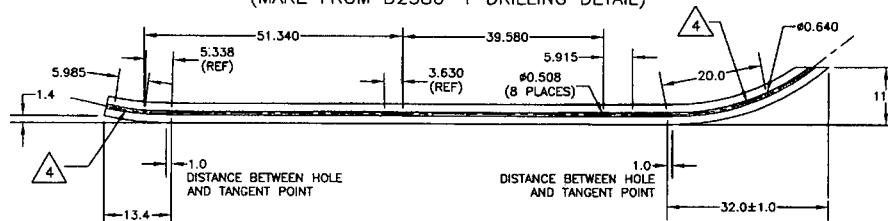
D2580-045 NOTES

- i) FINISH: ACID ETCH, ALODINE PER DART QSI 005 4.1 PRIOR TO INSERTING D2596 WEB
POWDER COAT ENTIRE ASSEMBLY GREEN (REF. 4.3.5.8) PER DART QSI 005 4.3
BLACK ANTI-SKID PAINT AS INDICATED PER DART QSI 005 4.4
- ii) IT IS ACCEPTABLE TO GRIND A RELIEF IN THE D2855 AFT CAP TO PREVENT INTERFERENCE
WITH THE SPACER AT THIS LOCATION

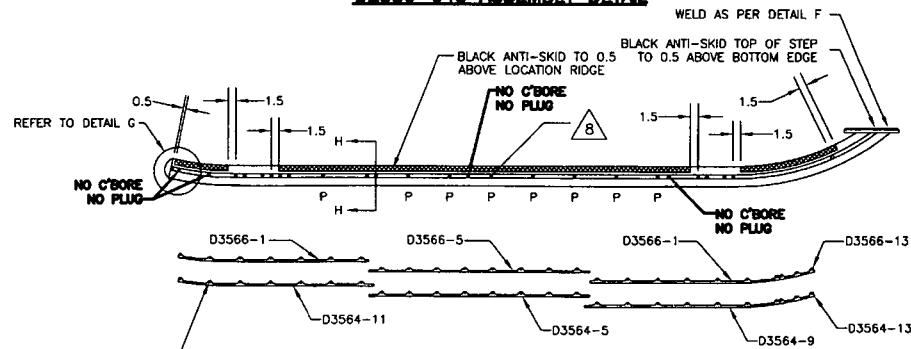
D2580-1 DRILLING DETAIL



D2580-5 BENDING AND CUTTING DETAIL
(MAKE FROM D2580-1 DRILLING DETAIL)



D2580-045 ASSEMBLY DETAIL



AN3C4A BOLT (1)
AN960C10L WASHER (1)
(50 PLACES)

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DESIGN	DRAWN BY	DART	DART AEROSPACE LTD. HAWKSBURY, ONTARIO, CANADA
REVIEWED	APPROVED	D2580	REV. D
DATE	TITLE	205 SKIDTUBE ASSEMBLY	SCALE
07.02.27			1:24

W/O:		WORK ORDER CHANGES					
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NOTE: Date & initial all entries

NO. 238

AWS D17.1.2001
QUALIFICATION TEST RECORD

Name: Barclay Elliott
Job number: 61352
Part number: D205-634.041
Description: 205 skid tube
Welding Process: Tig[] Mig[]
Base materiel: Aluminium
Current: AC[] DC[]

TEST REQUIREMENTS AND RESULTS

Visual: pass[] fail[]
Penetration: pass[] fail[]

UNACCEPTABLE

Cracks: pass[] fail[]
Undercut: pass[] fail[]
Pin holes: pass[] fail[]
Overlap (cold lap) pass[] fail[]
Porosity (surface): pass[] fail[]
Coloration: pass[] fail[]

Qualifier Barclay Elliott Date of Test Coupon 10.08.25

Welder Barclay Elliott Date of Test Coupon 10.08.25

The above named individual is qualified in accordance with AWS D17.1.2001 to weld